

OPTIONAL INFORMATION	
Name of School:	Date of Inspection:
Vocational Program/Course/Room:	Signature of Inspector:

## AIR POLLUTION CONTROL SELF INSPECTION CHECKLIST

**Guidelines:** New Jersey's Air Pollution Control Regulations are contained in Title 7, Chapter 27 of the New Jersey Administrative Code (N.J.A.C. 7:27). The goal of these regulations is to ensure that substances are not emitted into the air at levels which could cause air pollution.

The major requirements of the air pollution regulations include: procedures for obtaining air emission permits, regulation of maximum allowable emissions of certain gases and particulate matter, procedures for proper use of equipment which could cause the emission of pollutants into the air, and specific requirements for certain operations and chemicals known to be particularly capable of causing air pollution. These regulations are applicable to all New Jersey workplaces including vocational schools.

### Air Permits

Air emissions permits must be obtained from the NJ DEPE for the following operations:

- ! all control apparatus
- ! surface coating using one-half gallon or more per hour
- ! unheated open top surface cleaners with surface openings greater than 6 square feet
- ! all heated open top surface cleaners
- ! all conveyORIZED surface cleaners
- ! all surface cleaners with greater than 100 gallon storage capacity
- ! all equipment which can produce air contaminants where the combined weight of all input materials (minus air and water) equal 50 or more pounds in any one hour
- ! stationary tanks holding 2000 gallons or greater of volatile organic compounds, or 10,000 gallons of liquids other than water.
- ! dry cleaning equipment.
- ! any tank or vessel holding greater than 100 gallons that is used for etching, pickling, chrome plating or anodizing.

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No construction or installation of equipment can be done without having Permits to construct and Certificates to Operate from the NJDEP, and the permits must be kept on the premises. A ninety day lead time is recommended for the renewal of expired permits. Fees for new permits are a minimum of \$250.00.

### **Ambient Air Quality Standards**

The NJDEP has maximum emissions levels which must not be exceeded for suspended particulate matter, sulfur dioxide, carbon monoxide, ozone, lead, and nitrogen dioxide. These can be found in subchapter 13, section 3 of the regulations.

### **Toxic Substances**

Subchapter 17 contains two lists (Group I and Group II) of toxic substances for which the NJDEP requires registration, no matter how little is used in the school. These substances require state of the art emission reduction systems due to their high probability of producing air pollution. Two substances commonly used in vocational schools which are on this list of toxic substances are trichloroethylene and tetrachloroethylene. The best solution is to substitute less toxic substances for these two chemicals.

### **Specific Operational Requirements**

Specific requirements for diesel and gasoline powered vehicles are contained in subchapter 14 and 15 of the regulations. Degreasing, spray booths, surface coating, graphic arts, and dry cleaning requirements are contained in subchapter 16 of the regulations. Persons involved in these activities should review the regulations and contact the NJDEP for clarification.

### **Enforcement and Penalties**

The NJDEPE has established 4 regional offices to enforce air pollution control regulations, and to provide assistance.

Metropolitan Region	(973) 669-3935
Northern Region	(973) 299-7700
Central Region	(609) 584-4100
Southern Region	(609) 346-8071

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Civil penalties for violations of any of the regulations are contained in Chapter 7:27A, subchapter 3. The maximum penalty for first offense is \$10,000; second offense, \$25,000; and third offense, \$50,000.

Questions marked with the symbol (☞) may require the help of an outside expert. **The questions that are most likely not the responsibility of the individual teacher are marked with an asterisk (\*) next to the number of the question.** Definitions of underlined terms are provided at the end of the checklist to help you understand some of the questions.

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**Air Pollution Control Permits**

Please Circle

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| 1.*☞ Are air pollution permits on file for the following equipment or operations? [N.J.A.C. 7:27-8.2]   | Y N N/A DK |
| a) all <u>control apparatus</u> (devices that prevents or controls emission of any <u>air contaminant</u> ). ( <i>e.g. photolab exhaust, auto repair exhaust, welding fume hoods, blueprint machines, laboratory fume hoods, etc.</i> ) |            |
| b) all surface coating operations using 1/2 gallon or greater in any one hour ( <i>paint spray booths, graphic arts exhaust</i> )   |            |
| c) all surface cleaners that use a cleaning solution containing 5% or more <u>volatile organic compound (VOC)</u> or <u>hazardous air pollutant</u>   |            |
| d) all unheated open top <u>surface cleaners</u> with top opening greater than 6 square feet? ( <i>autobody repair paint removal tanks, degreasers, etc</i> )   |            |
| e) all heated open top <u>surface cleaners</u>  |            |

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- f) all conveyORIZED surface cleaners
- g) all surface cleaning or etching equipment with tank capacity greater than 100 gallons
- h) all stationary spray cleaning or surface stripping units using 0.5 or greater gallons of cleaning solution per hour.
- i) all equipment where the combined weight of inputs is >50 lbs/hour (minus air and water) (*welding fume hoods, carpentry shops, kilns etc.*)
- j) all stationary tanks holding greater than 10,000 gallons liquid (other than water)
- k) all equipment that can emit 0.1 or greater pounds per hour of any Group I or Group II toxic substance
- l) all graphic arts operations that use ink, fountain solution, or cleaning solution at greater than 0.5 gallons per hour (*newspaper, lithographic and screen printing shops*)

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|-----|--|---|---|-----|----|
| 2.* | Is there a procedure in place to ensure air pollution control Permits and Certificates are applied for and received before the installation and operation of new equipment? [N.J.A.C. 7:27-8.3(a) & (b)] | Y | N | N/A | DK |
| 3.* | Is there a policy in place that prohibits the operation of equipment or control device which is not functioning properly or is not operating in accordance with its permit? [N.J.A.C. 7:27-8.3(e)]       | Y | N | N/A | DK |

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- 4.\* Are the emissions of particles from fixed stacks or chimneys below the maximum allowable emission rate in pounds per hour contained in 7:27-4.2? Y N N/A DK

**Smoke from the Combustion of Fuel**

- 5.\* Is there a policy prohibiting the emission of smoke greater than 40% opacity from a mobile internal combustion engine for more than 10 consecutive seconds? [N.J.A.C. 7:27-3.4] *(auto and diesel repair shops)* Y N N/A DK

**Requirements for Diesel Engines**

6. Is there a procedure in place prohibiting the idling of a diesel engine vehicle for more than 3 consecutive minutes unless one of the conditions below exists? [N.J.A.C. 7:27-14.3] Y N N/A DK
- a) it is being repaired, or
- b) it has not been running during the three hour period preceding the startup (in this case the vehicle can be allowed to warm up for up to fifteen minutes)

**Requirements for Gasoline Powered Engines**

7. Is there a policy prohibiting the removal or any emission control device from a gasoline powered engine except during repairs or replacement activities? [N.J.A.C. 7:27-15.7] Y N N/A DK

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8. When catalytic converters are replaced on automobiles, are they only replaced by the same type of converter as the original (i.e. oxidation, three-way, or three-way plus oxidation) and are they the same type of converter specified by the vehicle catalog? [Section 203(a)(3)(B) of the Clean Air Act] Y N N/A DK
9. Is there a procedure in place prohibiting the idling of a gasoline powered engine vehicle for more than 3 consecutive minutes unless one of the conditions below exists? [N.J.A.C. 7:27-15.8] Y N N/A DK
- a) it is being repaired, or
- b) it has not been running during the three hour period preceding the startup (in this case the vehicle can be allowed to warm up for up to fifteen minutes)


**Volatile Organic Compounds  
Surface Cleaners**

10. Are all tanks which contain a Volatile Organic Compound (VOC) equipped with a lid to prevent evaporation or escape of vapors when the tank is not in use? [7:27-16.6] (*e.g. autobody shops, metalworking shops, etc*) Y N N/A DK
- (exception: open top tanks solely for application of electrophoretic dip prime coatings to automobiles and light duty trucks)

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| <p>11.  Do all unheated open top <u>surface cleaners</u> with openings between 6 and 25 square feet: [N.J.A.C. 7:27-16.6(b)] (<i>autobody shops</i>)</p> <p style="margin-left: 40px;">a) have a high liquid mark to prevent over filling?</p> <p style="margin-left: 40px;">b) not have a wand which produces mist or droplets or delivers spray above 15 pounds per square inch (psi)?</p> <p style="margin-left: 40px;">c) have a <u>freeboard ratio</u> of 0.5 or greater?</p>                    | <p>Y N N/A DK</p> |
| <p>12. Do all unheated open top <u>surface cleaners</u> with openings &gt;25 square feet comply with question 11 (a) and (b) above, and have a <u>freeboard ratio</u> of 0.75 or greater, or; have a <u>freeboard ratio</u> of 0.5 or greater and are separated from windows, exhaust systems, and other sources of drafts? [N.J.A.C. 7:27-16.6(b)]</p>  | <p>Y N N/A DK</p> |
| <p>13. Do all heated open top <u>surface cleaners</u> have all of the following? [N.J.A.C. 7:27-16.6(d)]</p> <p style="margin-left: 40px;">a) a thermostat which automatically maintains temperature below the boiling point of the liquid,</p> <p style="margin-left: 40px;">b) a high liquid mark,</p> <p style="margin-left: 40px;">c) no agitating system which can cause splashing,</p> <p style="margin-left: 40px;">d) no flushing wand producing mists or droplets or deliveries at &gt;15 psi,</p> <p style="margin-left: 40px;">e) a <u>freeboard ratio</u> &gt;0.75, or</p> | <p>Y N N/A DK</p> |

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- f) a freeboard ratio >0.5 and are separated by walls or screens from windows, doors, ventilation systems or other sources of drafts.
  - g) a freeboard chiller which circulates cooling fluid at a temperature below 40 degrees Fahrenheit.
  - h) an automatic heat shut-off if the temperature above the chiller exceeds manufacturer's specifications?
14. Do all conveyORIZED surface cleaners meet the basic conditions outlined above in addition to a condenser having heat removal capacity greater than the input into the bath; and are equipped with a freeboard chiller or a vapor control system; and also have covers protecting the conveyor inlet and outlet ports for reduction of losses when the cleaner is not in use (and hanging flaps when unit is in use)? [N.J.A.C. 7:27-16.6(f)] Y N N/A DK
15. Are there written standard operating procedures governing the proper use, inspection and maintenance of all surface cleaners? [N.J.A.C. 7:27-16.6(j)] Y N N/A DK
16. Have all persons using this equipment been trained in the Standard Operating Procedures? [(N.J.A.C. 7:27-16.6(k)] Y N N/A DK
17. Are copies of the Standard Operating Procedures located at the cleaner? [N.J.A.C. 7:27-16.6(l)] Y N N/A DK

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**Surface Coating and Graphic Arts**

- 18.\*☞ Are all surface coatings that exceed the limits contained in 7:27-16.7 done with controls to prevent emissions of VOCs? (paint spray booths, graphic arts shops) Y N N/A DK

Note: Vo-tech shops involved in automobile refinishing which use less than 50 gallons of coating per week or 48 gallons per week of custom topcoating are exempt from the requirements of N.J.A.C. 7:27-16.7.

**General Operations Resulting in VOC Emissions**

- 19.\*☞ Are all other VOC emissions below the emission rates described in N.J.A.C. 7:27-16.7? Y N N/A DK
- 20.\*☞ Are all gaskets, connections joints and fittings free of leaks which could result in VOC emissions? [N.J.A.C. 7:27-16.7(d)&(e)] Y N N/A DK

**Dry Cleaning Operations**

- 21.\*☞ For dry cleaning operations using more than 15,000 gallons of petroleum solvent annually, do all solvent dry cleaner dryers comply with either a) or b) below? [N.J.A.C. 7:27-16.20(a)] Y N N/A DK
- a) equipped with a vapor control system which prevents emissions above 7.7 lbs VOC per 220 lbs dry weight of articles dry cleaned, or
- b) operated so that the dryer is closed until the solvent flow rate of 0.013 gallons/minute is attained.

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- 22.\*~~22~~ Are all solvent filtration systems operated so that either a) or Y N N/A DK  
b) below apply? [N.J.A.C. 7:27-16.20(b)]
- a) the VOC content is less than 2.2 lbs/220 lbs dry  
weight articles cleaned before disposal or exposure to  
the atmosphere, or
- b) cartridge filters are allowed to drain for 8 hours before  
removal.
23. Are all leaking washers, dryers, filters, etc. which could Y N N/A DK  
result in VOC emissions corrected immediately? [N.J.A.C.  
7:27-16.20(c)]
24. Are there provisions for preventing VOC laden waste from Y N N/A DK  
being exposed to the atmosphere? [N.J.A.C. 7:27-16.20(c)]

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**Toxic Substances**

- 25.\* Has all equipment which could emit the following Toxic Substances (TXS) been registered with the NJDEP?  
[N.J.A.C. 7:27-17.3] (*e.g. auto repair and body shops, dry cleaners*)
- Y N N/A DK

**Group I**

Benzene (CAS # 71-43-2)  
Carbon Tetrachloride (CAS # 56-23-5)  
Chloroform (CAS # 67-66-3)  
Dioxane (CAS # 123-91-1)  
Ethylenimine (CAS # 151-56-4)  
Ethylene dibromide (CAS # 106-93-4)  
Ethylene dichloride (CAS # 107-06-2)  
1,1,2,2-Tetrachloroethane (CAS # 79-34-5)  
Tetrachloroethylene (CAS # 127-18-4)  
1,1,2-Trichloroethane (CAS # 79-00-5)  
Trichloroethylene (CAS # 79-01-6)

**Group II**

Methylene chloride (CAS #75-09-2)  
1,1,1-Trichloroethane (CAS #71-55-6)

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| 26. | Are all emissions of Group I TXS released: [N.J.A.C. 7:27-17.4]   |            |
| a)  | at least 40 feet above grade?   | Y N N/A DK |
| b)  | at least 20 feet above any human use area within 50 feet of the <u>stack</u> , and?   | Y N N/A DK |
| c)  | directed vertically upward?   | Y N N/A DK |
| d)  | using equipment which will prevent <u>aerodynamic downwash</u> ?  | Y N N/A DK |
| 27. | Are vapor emissions controls consistent with Subchapters 16 and 23 in place for all equipment using Group II substances? [N.J.A.C. 7:27-17.4] | Y N N/A DK |
| 28. | Are there written Standard Operating Procedures for all open top <u>surface cleaners</u> which contain TXSs? [N.J.A.C. 7:27-17.5(a)]          | Y N N/A DK |
| 29. | Have all persons using this equipment been trained in, and adhere to the Standard Operating Procedures? [N.J.A.C. 7:27-17.5(b)]               | Y N N/A DK |
| 30. | Are copies of the Standard Operating Procedures located at the cleaner? [N.J.A.C. 7:27-17.5(c)]   | Y N N/A DK |
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**Definitions:**

Aerodynamic downwash means the rapid descent of a plume to ground level with little dilution and dispersion due to alteration of background air flow characteristics caused by the presence of buildings or other obstacles in the vicinity of the emission point.

Air contaminant means any substance, other than water or distillates of air, present in the atmosphere as solid particles, liquid particles, vapors or gases.

Ambient air quality standard means a limit on the concentration of a contaminant in the general outdoor atmosphere, which cannot be exceeded without causing or tending to cause injury to human health, welfare, animal or plant life or property, or unreasonably interfering with the enjoyment of life and property, excluding all aspects of employer-employee relationship as to health and safety hazards.

Cartridge filtration system means a system in which perforated canisters containing filtration paper and/or activated carbon are used in a pressurized system to remove solid particles and fugitive dyes from soil-laden solvent.

Clear coating means a coating which lacks color and opacity or is transparent and uses the undercoat as a reflectant base or undertone color and any coating used as an interior protective lining on any cylindrical metal shipping container of greater than one gallon capacity.

Clear topcoat means the final coating, which contains binders by not opaque pigments and which is specifically formulated to form a transparent or translucent solid protective film on wood furniture.

Control apparatus means any device which prevents or controls the emission of any air contaminant directly or indirectly into the outdoor atmosphere.

Diesel-powered motor vehicle means a vehicle which is self-propelled by a compression ignition type of internal combustion engine and which is designed primarily for transporting persons or property on a public street or highway; for purposes of Subchapter 14, passenger automobiles and motorcycles are excluded.

Distillates of air means helium (He), nitrogen (N<sub>2</sub>), oxygen (O<sub>2</sub>), neon (Ne), argon (Ar), krypton (Kr), xenon (Xe), and carbon dioxide (CO<sub>2</sub>).

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Exhaust emissions means substances emitted into the atmosphere from any opening downstream from the exhaust ports of a motor vehicle engine.

Freeboard height means the vertical distance from either the VOC liquid level to the lip of an unheated open top surface cleaner or from the interface of the VOC vapor with the air to the lip of a vapor surface cleaner.

Freeboard ratio means a ratio of the freeboard height to the tank width or narrower dimension at the tank lip.

Gasoline-fueled motor vehicle means any motor vehicle equipped to be powered by a hydrocarbon fuel other than diesel fuel, but including alcohol fuels and hydrocarbon-alcohol fuel blends.

Group 1 TXS means an air contaminant that is found on the list of Group 1 TXS at N.J.A.C. 7:27-17.3.

Group 2 TXS means an air contaminant that is found on the list of Group 2 TXS at N.J.A.C. 7:27-17.3.

HAP or hazardous air pollutant means any air pollutant listed in or pursuant to subsection (b) of section 112 of the Federal Clean Air Act (42 U.S.C. § 7412).

Idle means the motor vehicle operating mode consisting of a non-loaded, throttled engine speed at the revolutions per minute specified by the manufacturer.

Local exhaust ventilation means a system for capturing air contaminants within 36 inches (91.4 centimeters) of the points at which they emerge from a source operation.

Maximum allowable emission rate means the maximum amount of an air contaminant which may be emitted into the outdoor air at any instant in time or during any prescribed interval of time.

Opacity means the property of a substance which renders it partially or wholly obstructive to the transmission of visible light, expressed as the percentage to which the light is obstructed.

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Open top tank means any vessel in which a manufacturing process, or any part thereof, takes place during which there is an opening to the atmosphere greater than 25 percent of the surface area of any liquid substance contained therein.

Operating certificate means a "Certificate to Operate Control Apparatus or Equipment" issued by the Department pursuant to the Air Pollution Control Act of 1954, specifically N.J.S.A. 26:2C-9.2, which is valid for a period of five years from the date of issuance, unless sooner revoked by the Department.

Organic substance means any chemical compound or mixture of chemical compounds of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, and ammonium carbonate.

ppm means parts per million by volume under standard conditions.

Particles means any material, except uncombined water, which exists as liquid particles or solid particles at standard conditions.

Primary air quality standard means an ambient air quality standard intended to protect the public health.

Smoke means gasborne and airborne particles, exclusive of water vapor, arising from a process of combustion in sufficient number to be observable.

Solvent recovery dryer means a class of dry cleaning dryers that employs a condenser to liquefy and recover solvent vapors evaporated in a closed-loop, recirculating stream of heated air.

Stack or chimney mean a flue, conduit or opening designed, constructed, and/or utilized for the purpose of emitting any air contaminant into the outdoor atmosphere.

Surface cleaner means a device to remove unwanted foreign matter from the surfaces of materials by using VOC solvents in the liquid or vapor state.

Suspended particulate matter means any solid or liquid matter dispersed in the outdoor atmosphere which, for purposes of Subchapter 13, shall mean the material collected and analyzed using methods approved by the Department.

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Toxic substance or TXS means a substance listed in Group 1 or Group 2 of subchapter 17.

Vapor means the gaseous form of substances which, under standard conditions, are in the solid or liquid state and which can be changed to these states by either increasing the pressure or decreasing the temperature.

Volatile organic compound or VOC means any organic substance, or mixture of organic substances, or the organic components of any mixture of organic and inorganic substances that participates in atmospheric photochemical reactions. For the purpose of determining compliance with emission limits or content standards, VOC shall be measured by approved test methods. This term includes, but is not limited to, petroleum crudes, petroleum fractions, petrochemicals, solvents, diluents, and thinners. In the case of surface coating formulations, this term also includes any coalescing or other agent which is an organic substance and evaporates from the coating during the application and drying phase. This term does not include: methane, trichlorofluoromethane, dichlorodifluoromethane, chlorodifluoromethane, trifluoromethane, 1,1,2-trichloro-1,2,2-trifluoroethane, 1,2-dichloro-1,1,2-trifluoroethane, 1,2-dichloro-1,1,2,2-tetrafluoroethane, and chloropentafluoroethane.